



Species of Concern

NOAA National Marine Fisheries Service

Sand tiger shark

Carcharias taurus



Photo credit: Paula Whitfield, NOAA.

KEY INFORMATION

Areas of Concern

Western Atlantic - south Atlantic, Gulf of Mexico, Caribbean.

Year Identified as “Species of Concern”
1997

Factors for Decline

- Fishing
- Pollution
- Low fecundity
- Bycatch

Conservation Designations

IUCN: Vulnerable

American Fisheries Society: Vulnerable

Brief Species Description:

The sand tiger shark is characterized by: two dorsal fins of similar size (base of first dorsal just in front of pelvic-fin bases); short, asymmetric caudal fin with a pronounced subterminal notch and short but strong ventral lobe); 5 medium gill slits in front of pectoral-fin bases; lack of gill rakers; very short snout; and small eyes without nictitating membranes. They are light grey-brown above in color, whiter below with yellow/yellowish blotches. The teeth, which are similar in both jaws, are long and pointed, with a small spine-like cusp on either side. Maximum length is about 10.4 feet (318 cm) TL. Sand tiger sharks may occur singly or in small schools and are active mostly at night. They are generally coastal, usually found from the surf zone down to depths around 75 feet (23 m). Their global distribution is all warm and temperate seas except eastern Pacific. However, they may be found in shallow bays, around coral reefs and to depths of 600 feet (183 m) on the continental shelf. They usually live near the bottom, but have been found throughout the water column. Sexual maturity for males is reached at the size of 6 feet (2 m) or 6 to 7 years; females mature at 7 feet (2.2 m) or 9 to 10 years (Goldman et al. 2006). The species is ovoviviparous (young develop as unattached embryos within the uterus, with energy supplied by large egg yolks). In North America, mating is thought to occur in alternate years between late March and the April with an average litter of one to two pups. The reproductive cycle is at least 2 years. Prey items include a wide variety of bony fishes, small sharks, rays, squid, crabs and lobsters.

Rationale for “Species of Concern” Listing:

Demographic and Genetic Diversity Concerns:

Sand tiger sharks have been fished throughout their range. The species is highly regarded as a food fish in Japan, but not in the Western Atlantic. Increase in exploitation of sharks along the U.S. east coast in the 1980s and 1990s has resulted in decreased abundance of 90% from virgin conditions (Musick et al. 1993, Castro et al. 1999). Their aggregating behavior, slow growth, late maturity, and low productivity make them susceptible to exploitation.



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Factors for Decline:

As described above, the shark is known to be caught for food in Japan. They are of variable economic importance regionally. Although not a preferred target of commercial or recreational fisheries, they are still taken primarily with line fishing gear, but also in bottom-set gillnets and in pelagic and bottom trawls. The shark has also been used for fishmeal, oil (from its liver) and its fins are used for the Oriental sharkfin trade. Sand tigers are very susceptible to fishery exploitation because they aggregate in large numbers during the mating season at particular coastal spots. These aggregations have been targeted in the past by fisheries. In addition, juvenile sand tiger sharks are commonly found in [estuaries](#) of the eastern U.S. that are susceptible to runoff and pollution. Sibling cannibalism is another factor that makes this species vulnerable, since it limits the litter size to one or two pups. The low fecundity in combination with other life history characteristics makes this species extremely vulnerable to overfishing.

Status Reviews/Research Underway:

A status review under the Endangered Species Act is underway.

Existing Protections and Conservation Actions:

The sand tiger shark is managed by the Highly Migratory Species Fishery Management Plan (FMP). Under this FMP, it has been illegal to land (both commercially and recreationally) this species or any parts (fins, meat, jaws, etc) on the Atlantic coast of the U.S. since 1997. Several states adopted similar regulations, though Maine, New Hampshire, Rhode Island, and Connecticut have not.

References:

- Branstetter, S. and J.A. Musick. 1994. Age and growth estimates for the sand tiger in the northwestern Atlantic ocean. *Transactions of the American Fisheries Society* 123:242-254.
- Castro, J., C.M. Woodley, and R.L. Brudeck. 1999. A preliminary evaluation of the status of shark species. *FAO Fisheries technical Paper #380*. FAO, Rome, 72 p.
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- Gilmore, R.G., J.W. Dodrill, and P.A. Linley. 1983. Reproduction and embryonic development of the sandtiger shark, *Odontaspis taurus* (Rafinesque). *Fishery Bulletin U.S.* 81:201-225.
- Goldman, K.J., S. Branstetter, J.A. Musick. 2006. A re-examination of the age and growth of sand tiger sharks, *Carcharias taurus*, in the western North Atlantic: the importance of ageing protocols and the use of multiple back-calculation techniques. *Environmental Biology of Fishes*. 77:241-252.
- Musick, J.A., S. Branstetter, and J.A. Colvocoresses. 1993. Trends in shark abundance from 1974 to 1991 for the Chesapeake Bight region of the U.S. Mid-Atlantic coast. *Conservation Biology of Elasmobranchs*. NOAA Technical Report NMFS 115:1-18.

Point(s) of contact for questions or further information:

For further information on this Species of Concern, or on the Species of Concern Program in general, please



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